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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/525,069	02/18/2005	Hiroaki Hirai	2611-0231PUS1	5828

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EXAMINER	
MEHRPOUR, NAGHMEH	

ART UNIT	PAPER NUMBER
2686	

DATE MAILED: 01/03/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No.	Applicant(s)	
	10/525,069	HIRAI ET AL.	
	Examiner	Art Unit	
	Naghmeh Mehrpour	2686	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☐ Responsive to communication(s) filed on _____.

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) 1-12 is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) 1-12 is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☒ All b)☐ Some * c)☐ None of:

1.☒ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☒ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) Paper No(s)/Mail Date 02/18/05.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____.
5) ☐ Notice of Informal Patent Application (PTO-152)
6) ☐ Other: _____.

DETAILED ACTION

Priority

1. Receipt is acknowledged of papers submitted under 35 U.S.C. 119(a)-(d), which papers have been placed of record in the file.

Information Disclosure Statement

2. The information disclosure statement filed reference listed in the information Disclosure Submitted on 02/18/05 have been considered by the examiner (see attached PTO-1449

Claim Rejections - 35 USC § 102

3. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

> A person shall be entitled to a patent unless –
>
> (e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

4. Claims 1-4, 6-8, are rejected under 35 U.S.C. 102(e) as being anticipated by Kim et al.(US publication Number 2004/0077378 A1).

Regarding claims 1, 6, Kim teaches a radio communication apparatus that is applied to a radio communication system and communicates with other radio communication apparatus in the radio

communication system using one available channel or a plurality of channels, the radio communication apparatus comprising

a reception processing unit that, when input reception signals of the channels of the radio communication system is received, measures reception states of input reception signals of each of the channels, generates local channel reception information of each of the channels based on a result of the measurement, and applies a reception processing to the input reception signals to generate decoded signals (0008),

a media-access-control unit that, when data is transmitted using two or more channels, generates transmission frames for each of the channels using transmission data;

a transmission processing unit that generates radio signals including each of the transmission frames', and a channel-information processing unit that generates local feedback information based on the local channel reception information, and inserts the local feedback information generated into one of the radio signals or a plurality of the radio signals, wherein the radio communication apparatus transmits the radio signals including the local feedback information (0022, 0024, 0040).

Regarding claims 2, 7, Kim teaches a radio communication apparatus wherein the channel-information processing unit generates the local feedback information based on the local channel reception information and resource information that is a processing load of the media-access-control unit.

.Regarding claims 3, Kim teaches a radio communication apparatus further comprising a selector that, when the channel-information further, when the channel information processing unit inserts the local feedback information, selects the radio signals into which the local information is inserted, based on the local channel reception information.

Regarding claim 4, Kim teaches a radio communication apparatus according to claim 1 , the reception processing unit extracts, when transmission source feedback information is inserted in each of the input reception signals by the other radio communication apparatus, the transmission source feedback information (0088),
the media-access-control unit determines a transmission system and a transmission speed based on the transmission source feedback information extracted (0008), and
the transmission processing unit generates the radio signals based on the transmission system and the transmission speed determined (0040, 0006,0098).

Claim Rejections - 35 USC § 103

5. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

6. Claims 5, 9-12, are rejected under 35 U.S.C. 103(a) as being unpatentable over Kim et al.(US publication Number 2004/0077378 A1) in view Tee (US Publication 20020049058 A1).

Regarding claim 5, Kim teaches a radio communication apparatus according to claim 1, wherein the reception processing unit extracts, when transmission source feedback information is inserted in each of the input reception signals by the other radio communication apparatus, the transmission source feedback information, the media-access-control unit extracts a transmission source address included in the decoded signals at a time of reception, and extracts a destination address of transmission data at a time of transmission (0008), and the channel-information processing unit generates a local feedback table, in which the local channel reception information, the transmission source feedback information extracted 0056). Determines a transmission system and a transmission speed based on the transmission source feedback information corresponding to the transmission source address for which the transmission source address stored in the local feedback table and the destination address coincide with each other, and the transmission processing unit generates the radio signals (0035-0039).

Kim does not specifically mention the transmission source address extracted are stored corresponding to each other at the time of reception, searches through the local feedback table with the destination address as a keyword at the transmission to generate the local feedback information based on the local channel reception information corresponding to the transmission source address for which the transmission source address stored in the local feedback table and the destination address coincide with each other, and determines a transmission system and a transmission speed based on the transmission source feedback information corresponding to the transmission source address for which the transmission source address stored in the local feedback table and the destination address coincide with each other, and the transmission processing unit generates the radio signals. However Tee teaches a drop timer database may be

formed by the base station 302 to store up-to-date values for nominal T_TDROP and range, based on the feedback information from mobile stations such as 304a in each of the soft (softer) handoff regions within the cell site. The drop timer database can be a look-up table 306 that contains the current T_TDROP nominal and range values for an MS performing handoffs in a certain soft handoff region in the cell site. The velocity of the MS can be classified as low, medium or high mobility, and be included as an entry in the look-up-table. An example of the look-up-table is shown in FIG. 7. As the location of the MS can be tracked by the BS through the Global Positioning System (GPS) as well as E-911 location services, velocity of the MS can also be estimated by the BS. For example, if p1, p2 are the position vectors of the MS at time t1 and t2 respectively, the first order approximation of the MS' velocity can be computed as:(p2-p1)/(t2-t1). In case the MS is part of a Telematics application, the velocity of the vehicle can be readily available from the speedometer. A base station can inform a mobile terminal the nominal value and range to be used for T_TDROP, by selecting an entry from the look-up-table, based on the location and velocity of a mobile station (see 630 in FIG. 10). This mechanism avoids the need for a network operator to manually select a static T_TDROP value or even attempt to optimize the network by choosing different T_TDROP value setting occasionally. The adaptation of T_TDROP value at the MS, together with the feedback mechanism enables adapting and correcting the choice of T_TDROP, optimizing the network as a result (0038).Therefore, it would have been obvious to ordinary skill in the art at the time the invention was made to combine the above teaching of Kim with Tee, in order to determining a handoff timing parameter based on the call category such as location and mobility class of a group of mobile.

Regarding claim 8, Kim teaches a radio communication apparatus according to claim 6, the media-access-control unit extracts (0008), when transmission source feedback information is inserted in the decoded signals by the other radio communication apparatus (0065), the transmission source feedback information, and determines a transmission system and a transmission speed based on the transmission source feedback information extracted (008), and the transmission processing unit generates the radio signals based on the transmission system and the transmission speed determined (0060).

Regarding claim 9, Kim teaches a radio communication apparatus wherein the media-access-control unit (0022,0075, 0020), extracts a transmission source address included in the decoded signals (0065). Kim does not specifically mention the decode signal generates a local channel reception information table in which the local channel reception information and the transmission source address extracted are stored corresponding to each other, at a time of transmission, extracts, when data to be transmitted is a feedback frame for notifying local feedback information, a destination address in the feedback frame, searches through the local channel reception information table with the destination address as a keyword, generates the local feedback information based on local channel reception information corresponding to the transmission source address for which the transmission source address stored in the local channel reception information table and the destination address coincide with each other, and inserts the local feedback information generated into the feedback frame. However Tee teaches a drop timer database may be formed by the base station 302 to store up-to-date values for

nominal T_TDROP and range, based on the feedback information from mobile stations such as 304a in each of the soft (softer) handoff regions within the cell site. The drop timer database can be a look-up table 306 that contains the current T_TDROP nominal and range values for an MS performing handoffs in a certain soft handoff region in the cell site. The velocity of the MS can be classified as low, medium or high mobility, and be included as an entry in the look-up-table. An example of the look-up-table is shown in FIG. 7. As the location of the MS can be tracked by the BS through the Global Positioning System (GPS) as well as E-911 location services, velocity of the MS can also be estimated by the BS. For example, if p1, p2 are the position vectors of the MS at time t1 and t2 respectively, the first order approximation of the MS' velocity can be computed as:(p2-p1)/(t2-t1). In case the MS is part of a Telematics application, the velocity of the vehicle can be readily available from the speedometer. A base station can inform a mobile terminal the nominal value and range to be used for T_TDROP, by selecting an entry from the look-up-table, based on the location and velocity of a mobile station (see 630 in FIG. 10). This mechanism avoids the need for a network operator to manually select a static T_TDROP value or even attempt to optimize the network by choosing different T_TDROP value setting occasionally. The adaptation of T_TDROP value at the MS, together with the feedback mechanism enables adapting and correcting the choice of T_TDROP, optimizing the network as a result (0038).Therefore, it would have been obvious to ordinary skill in the art at the time the invention was made to combine the above teaching of Kim with Tee, in order to determining a handoff timing parameter based on the call category such as location and mobility class of a group of mobile.

Regarding claim 10, Kim fails to teach a radio communication apparatus according to claim 9, when generating the local channel reception information table, stores a time when the of the local channel reception information table is generated, when information stored in the local channel information table is used, compares a present time the time when the of the local channel reception information table is generated, when a difference between the present time and the time when the of the local channel reception information table is generated is within a predetermined range, generates the local feedback information based on the local channel reception information of the local channel information table, and when the difference exceeds the predetermined range, does not generate the local feedback information. However Tee teaches a drop timer database may be formed by the base station 302 to store up-to-date values for nominal T_TDROP and range, based on the feedback information from mobile stations such as 304a in each of the soft (softer) handoff regions within the cell site. The drop timer database can be a look-up table 306 that contains the current T_TDROP nominal and range values for an MS performing handoffs in a certain soft handoff region in the cell site. The velocity of the MS can be classified as low, medium or high mobility, and be included as an entry in the look-up-table. An example of the look-up-table is shown in FIG. 7. As the location of the MS can be tracked by the BS through the Global Positioning System (GPS) as well as E-911 location services, velocity of the MS can also be estimated by the BS. For example, if p1, p2 are the position vectors of the MS at time t1 and t2 respectively, the first order approximation of the MS' velocity can be computed as:(p2-p1)/(t2-t1). In case the MS is part of a Telematics application, the velocity of the vehicle can be readily available from the speedometer. A base station can inform a mobile terminal the nominal value and range to be used for T_TDROP, by

selecting an entry from the look-up-table, based on the location and velocity of a mobile station (see 630 in FIG. 10). This mechanism avoids the need for a network operator to manually select a static T_TDROP value or even attempt to optimize the network by choosing different T_TDROP value setting occasionally. The adaptation of T_TDROP value at the MS, together with the feedback mechanism enables adapting and correcting the choice of T_TDROP, optimizing the network as a result (0038).Therefore, it would have been obvious to ordinary skill in the art at the time the invention was made to combine the above teaching of Kim with Tee, in order to determining a handoff timing parameter based on the call category such as location and mobility class of a group of mobile

Regarding claim 11, Kim teaches a radio communication apparatus according wherein the media-access control unit (0008). that wherein the media-access-control unit when the decoded signal is a feedback frame from the other radio communication apparatus, extracts a transmission source address included in the decoded signal (0065). Kim does not specifically mention that extracts transmission source feedback information included in the feedback frame, and generates a transmission source feedback information table in which the transmission source address and the transmission source feedback information are stored corresponding to each other, and at a time of transmission, extracts a destination address from data to be transmitted, searches through the transmission source feedback information table with the destination address extracted as a keyword, and determines a transmission system and a transmission speed based on the transmission source feedback information corresponding to the transmission source address for which the destination address and the transmission source address stored in the transmission

source feedback information table coincide with each other. However Tee teaches a drop timer database may be formed by the base station 302 to store up-to-date values for nominal T_TDROP and range, based on the feedback information from mobile stations such as 304a in each of the soft (softer) handoff regions within the cell site. The drop timer database can be a look-up table 306 that contains the current T_TDROP nominal and range values for an MS performing handoffs in a certain soft handoff region in the cell site. The velocity of the MS can be classified as low, medium or high mobility, and be included as an entry in the look-up-table. An example of the look-up-table is shown in FIG. 7. As the location of the MS can be tracked by the BS through the Global Positioning System (GPS) as well as E-911 location services, velocity of the MS can also be estimated by the BS. For example, if p1, p2 are the position vectors of the MS at time t1 and t2 respectively, the first order approximation of the MS' velocity can be computed as:(p2-p1)/(t2-t1). In case the MS is part of a Telematics application, the velocity of the vehicle can be readily available from the speedometer. A base station can inform a mobile terminal the nominal value and range to be used for T_TDROP, by selecting an entry from the look-up-table, based on the location and velocity of a mobile station (see 630 in FIG. 10). This mechanism avoids the need for a network operator to manually select a static T_TDROP value or even attempt to optimize the network by choosing different T_TDROP value setting occasionally. The adaptation of T_TDROP value at the MS, together with the feedback mechanism enables adapting and correcting the choice of T_TDROP, optimizing the network

as a result (0038).Therefore, it would have been obvious to ordinary skill in the art at the time the invention was made to combine the above teaching of Kim with Tee, in order to determining a handoff timing parameter based on the call category such as location and mobility class of a group of mobile

Regarding claim 12, Kim teaches a radio communication apparatus according to claim 11, wherein the media-access-control unit (0008) Kim does not specifically mention that generating the local channel reception information table, stores a time when the of the local channel reception information table is generated, when information stored in the local channel information table is used, compares a present time the time when the of the local channel reception information table is generated, when a difference between the present time and the time when the of the local channel reception information table is generated is within a predetermined range, determines a transmission system and a transmission speed based on the transmission source feedback information of the transmission source feedback information table, and when the difference exceeds the predetermined range, determines a transmission system and a transmission speed that are decided in advance. However Tee teaches a drop timer database may be formed by the base station 302 to store up-to-date values for nominal T_TDROP and range, based on the feedback information from mobile stations such as 304a in each of the soft (softer) handoff regions within the cell site. The drop timer database can be a look-up table 306 that contains the current T_TDROP nominal and range values for an MS performing handoffs in a certain soft handoff region in the cell site. The velocity of the MS can be classified as low, medium or high mobility, and be included as an entry in the look-up-table. An example of the

look-up-table is shown in FIG. 7. As the location of the MS can be tracked by the BS through the Global Positioning System (GPS) as well as E-911 location services,

velocity of the MS can also be estimated by the BS. For example, if p1, p2 are the position vectors of the MS at time t1 and t2 respectively, the first order approximation of the MS' velocity can be computed as:(p2-p1)/(t2-t1). In case the MS is part of a Telematics application, the velocity of the vehicle can be readily available from the speedometer. A base station can inform a mobile terminal the nominal value and range to be used for T_TDROP, by selecting an entry from the look-up-table, based on the location and velocity of a mobile station (see 630 in FIG. 10). This mechanism avoids the need for a network operator to manually select a static T_TDROP value or even attempt to optimize the network by choosing different T_TDROP value setting occasionally. The adaptation of T_TDROP value at the MS, together with the feedback mechanism enables adapting and correcting the choice of T_TDROP, optimizing the network as a result (0038).Therefore, it would have been obvious to ordinary skill in the art at the time the invention was made to combine the above teaching of Kim with Tee, in order to determining a handoff timing parameter based on the call category such as location and mobility class of a group of mobile

Conclusion

7. The prior art made of record and not relied upon is considered pertinent to applicant's

disclosure.

Cho et al. (US Publication 2005/0043031 A1) disclose apparatus and method for scheduling resource in a multiuser MIMO radio communication system

Kim et al. (US Publication 2005/0037718 A1) disclose device and method for transmitting diversity scheme using multiple antenna in a mobile communication system **Balachandran et al.** (US Publication 20030185181 A1) disclose method and system for incremental redundancy system

8. **Any responses to this action should be mailed to:**

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Naghmeh Mehrpour whose telephone number is 571-272-7913. The examiner can normally be reached on 8:00- 6:00.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Marsha Banks-Harold be reached (571) 272-7905.

The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

NM

December 21, 2005

PATENT EXAMINER